



NRAP Good Practice Repository – Children and young people's asthma



Birmingham Children's Hospital Birmingham Women's and Children's NHS Foundation Trust

KPI 4:

Inhaler technique checked as part of discharge planning

*Birmingham Children's Hospital
achieved:*

100% - 2023/24*

*% of patients submitted to the audit.



Overview

We have been successful in achieving compliance asthma discharge elements including inhaler technique check. This is checked and documented when children are admitted to hospital with acute asthma attack and ensured when children are switched to inhalers to prior to discharge.

The discharge checklist is also completed with the patient's electronic discharge letter, serving as a secondary reminder to ensure its completion.

Our processes to achieve good practice in KPI4:

- To ensure all aspects/standards of asthma care are adhered to, all children presenting to our trust with asthma have their medical assessments documented on asthma pathway booklet. The pathway booklet includes treatment guidelines, drug dosages, and asthma discharge checklist.
 - The discharge checklist, aligned with NRAP audit discharge elements, is an integral component of our asthma pathway. This checklist which includes the evaluation of inhaler technique and is designed to be completed as the patient approaches discharge. It is feasible any member of multi-professional teams to complete the checklist, the medical team usually completes this.
 - Furthermore, the same checklist needs to be completed with the patient's electronic discharge letter, serving as a secondary reminder to ensure its completion. The pathway booklet complements this process by providing essential patient information leaflets and explanations of what to anticipate during hospital presentation.
 - In terms of personnel responsibilities, ward managers and the nurse in charge play a pivotal role in overseeing and reinforcing the completion of this checklist, and ward teams are up to date with asthma competencies. Additionally, our Asthma ANPs and nurses are instrumental in supporting newly qualified nurses and reinforcing training in asthma education.
- **Asthma pathway**
 - **Discharge checklist**
 - **Parent leaflet**



Parent leaflet:

Name: **Please affix Patient Sticker**

DOB: **Please affix Patient Sticker**

Hospital Number:



Acute Asthma/Wheeze Integrated Care Pathway

(This pathway is for use in children aged 1 year and older with presumed acute asthma or wheeze)

	Page	Content
I N D E X	1	Title
	2	Flow Chart
	3-4	Patient information leaflet
	5-6	Initial clinical Assessment
	7-18	Reassessments and multi professional continuation sheets
	19-20	GP letter
	21-22	Personal Action plans
	23	Asthma Medications Guidance
	24	Discharge Bundle

- This multidisciplinary document is a guide to the treatment of acute asthma and wheeze in children over one year of age. It is not intended to replace independent assessment and management of the individual patient and professionals should continue to exercise clinical judgement as appropriate.
- Please refer to the Flow Chart on page 2, which summarises the management guidelines
- Relevant documents can be found on the dedicated 'Asthma' section on the Intranet. This includes:
 - Dosage calculator and monographs for intravenous medications
 - Electronic copy of complete pathway
 - BTS/SIGN/NICE guidelines
- Please note that patients may leave this pathway (due to change in diagnosis, admission to PICU, etc) and may return to the pathway at a later stage.
- Ensure that any variation in management from the pathway is clearly documented.
- This pathway should be used in conjunction with related BCH policies and guidelines which support and inform the guidance contained in this document.
- This pathway forms part of the legal record of the patient's care and therefore must be completed in full.

Discharge checklist:

Asthma and Wheeze care

Inhaler technique checked

Yes

Maintenance medication reviewed

Yes

Adherence discussed

Yes

Asthma management plan (PAAP) issued or reviewed

Yes

Triggers discussed

Yes

Parent/carer tobacco dependency addressed

Yes

Not applicable, non
smoking household

Community follow up requested within two working days

Yes

Paediatric clinic requested

If fits criteria in the Asthma Pathway

Yes

Not applicable under
asthma pathway

Paediatric respiratory specialist review

If fits criteria in the Asthma Pathway

Yes

Not applicable under
asthma pathway



Discharge Bundle

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Discharge Checklist (COMPLETE ALL ROWS BEFORE PATIENT IS DISCHARGED)	Yes	Signature / Print Name							
Peak Expiratory Flow Rate checked (Predicted/Best value ___/min) Patient/Carer informed of value									
Inhaler device technique demonstrated and checked (including oral hygiene and care of spacer)									
Maintenance treatment and adherence reviewed (as per BTS guidelines)									
Triggers for exacerbation reviewed and discussed									
Asthma information leaflet given									
Personal asthma/wheeze action plan given									
Tobacco exposure/Smoking cessation discussed (if appropriate)									
Letter given to give to GP practice requesting review in 48hours									
Electronic discharge summary completed if ward patient									
If indicated, referral made for hospital follow up (see Referral criteria below)									
CRITERIA LED DISCHARGE	Peak Expiratory Flow Rate								
1. SaO2 in air >94%	Height (m)	Height (ft)							
2. Stable on upto 10 puffs salbutamol 4 hourly		Predicted EU PEF (L/min)							
3. Other	0.85	2'9"							
All discharge criteria met Yes/No		87							
Signed _____ Print name _____	0.90	2'11"							
		95							
	0.95	3'1"							
		104							
	1.00	3'3"							
		115							
	1.05	3'5"							
		127							
	1.10	3'7"							
		141							
	1.15	3'9"							
		157							
	1.20	3'11"							
		174							
	1.25	4'1"							
		192							
	1.30	4'3"							
		212							
	1.35	4'5"							
		233							
	1.40	4'7"							
		254							
	1.45	4'9"							
		276							
	1.50	4'11"							
		299							
	1.55	5'1"							
		323							
	1.60	5'3"							
		346							
	1.65	5'5"							
		370							
	1.70	5'7"							
		393							
REFERRAL CRITERIA									
Respiratory/ Asthma Nurse Specialist <input type="checkbox"/> Yes									
• All patients who are referred to the nurse led service must have a diagnosis of asthma or virus induced wheeze									
• The asthmatic patient needs to be followed up by a health professional, not necessarily a hospital doctor									
• The parent/child shows little understanding of asthma or asthma treatment									
• Concerns due to lack of adherence									
• Newly diagnosed asthmatic patient where it is felt that the parent and patient need extra support									
General Paediatrics <input type="checkbox"/> Yes									
• Patients on medium to high dose inhaled steroids									
• Any HDU admissions for asthma									
• Repeated ED attendances with asthma/wheeze									
• More than 3 admissions in the preceding 12 months									
• Poorly controlled asthma including frequent use of bronchodilators and/or oral steroids									
Respiratory Medicine <input type="checkbox"/> Yes									
• Poorly controlled asthma or on high dose inhaled steroids									
• Persistent airflow obstruction (FEV1 <70% predicted) despite above therapy									
• Recurrent severe exacerbation- one PICU or 2 HDU admissions requiring iv aminophylline/salbutamol									
• Alternate day oral Prednisolone									
• More than 6 admissions in 12 months interrupting school									
• Diagnosis of asthma is in doubt or additional diagnosis is under consideration or warning signs present									
Warning signs:									
• Symptoms present since birth	• Presence of stridor and wheeze								
• Failure to thrive	• Clinical signs of chronic chest e.g. clubbing								
• Persisting wet cough	• Associated symptoms of choking with feeds/solids in otherwise healthy child								
Medications on discharge (for dispensing in emergency department or CDU)									
Salbutamol standard weaning regime:									
Salbutamol 100 micrograms 6 -10 puffs every 4 hours for 1 day then									
Salbutamol 100 micrograms 6 puffs every 6 hours for 1 day then									
Salbutamol 100 micrograms 6 puffs as required (refer to written management plan)									
Drug	Dose	Route	Freq	Duration	Signature	Date	Time	Dispenser	Checker
SALBUTAMOL 100 microgram		inh							
Discharged by - Print name:					Designation:				
Signature:					Time & Date:				



Please affix
Patient Sticker



PLEASE TEAR OFF AND GIVE THIS PAGE TO THE CHILD/PARENT/CARER

As part of the management of your/your child's wheeze **YOU SHOULD EXPECT** the following to happen during your time with us:

1. **Regular assessment** to ensure that the treatment being given is helping relieve the wheeze and that stronger medicine is not needed.
2. If you are not sure of the plan please ask the nurse or doctor looking after you for an update.
3. You/Your child should have his/her **WEIGHT, HEIGHT and PEAK FLOW** (if 6 years old or over) checked and documented
4. **Before being discharged:**
 - The **INHALER TECHNIQUE** and **MEDICATIONS** you are taking (including inhalers) should be reviewed to make sure you are on the appropriate treatment. If this has not been done please ask a member of staff.
 - You should be given a letter to post/give at your GP practice as soon as possible. This letter advises them that you have attended the Emergency Department with wheeze and need a review within 48 hours.
 - You should also be given a leaflet about asthma and how to use the inhalers at home.
5. If the criteria are met, we will refer you/your child to an appropriate Paediatric Asthma Specialist

If you have any concerns about your child in between assessments please speak to a member of staff as soon as you can.

While you are in the department **WE WOULD LIKE** the following:

- For you to give the inhaler yourself/to your child when it is prescribed, with our support. This is so that we can help improve the technique to maximize the amount of medicine delivered.
- Keep note of the peak flow result (if ≥ 6 years old) for future attendances or appointments.
- Please remember to drop the letter we give you at your GP surgery as soon as you can, ideally on the way home, and **TRY TO BOOK A REVIEW WITH YOUR GP WITHIN THE FOLLOWING 48 HOURS.**